

**SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
RESPONSE TO COMMENTS
ON
TENTATIVE MONITORING AND REPORTING PROGRAM No. R9-2004-001**

This document contains the San Diego Regional Water Quality Control Board's (SDRWQCB) responses to written and verbal comments on tentative Monitoring and Reporting Program (MRP) No. R9-2004-001. Responses to comments in this document are organized in the following order:

- A. GENERAL COMMENTS;
- B. SPECIFIC COMMENTS;
- C. PERMITTEES' PROPOSED REVISED MRP; and
- D. MONITORING COSTS

Written and verbal comments responded to in this document include:

- Riverside County Flood Control and Water Conservation District (on behalf of all Permittees): **District, January 28, 2004**
- State Water Resources Control Board: **SWRCB, February 9, 2004**
- United States Environmental Protection Agency: **EPA, March 5, 2004**
- **District, March 10, 2004** (on behalf of all Permittees)
- Verbal comments by Dan York, **City of Murrieta, February 11, 2004**
- Verbal comments by Linda Garcia, **District, February 11, 2004**

Written comments presented in this document were either copied from electronic submittals or paraphrased for simplification. Verbal comments were taken from the Reporter's Transcript of Proceedings from the February 11, 2004 SDRWQCB Meeting.

Editorial and minor proposed changes that serve to clarify the MRP have been made as underline/strike out text in the revised tentative MRP without specific explanation. Other minor proposed changes that were not necessary to clarify the MRP were not made and are not specifically addressed in this document.

A. GENERAL COMMENTS

1. Comment (EPA):

We are pleased to see that the Board has proposed to include a variety of storm water environmental indicators (chemical, toxicity and bioassessment) in the proposed monitoring program, rather than focusing on chemical monitoring which has been the tendency in the past. This is consistent with the recommendations of a conference which EPA co-sponsored in Crested Butte, CO in 1995 (Stormwater NPDES Related Monitoring Needs, Proceedings of an Engineering Foundation Conference, ASCE, 1995). It is also consistent with the recommendations of a monitoring program guide which EPA developed in conjunction with the Center for Watershed Protection entitled "Environmental Indicators to Assess Stormwater Control Programs and Practices", dated July, 1996.

EPA also recommends that costs be considered when developing monitoring programs required by NPDES permits (EPA 833-B-96-003). We believe that your approach of using the monitoring costs of nearby established County programs as a benchmark is reasonable. We note that a commenter has disputed the Board's comparison as presented in the fact sheet for the permit. However, it is not clear to us what activities were included in the cost figures for Orange County and San Diego County; as such, it is difficult to evaluate these claims. While it may be appropriate to adjust the monitoring program requirements when the cost issues are sorted out, we would recommend that you retain a mix of environmental indicators in the permit as you have proposed.

We also disagree with a commenter who seems to feel that the monitoring should be scaled back since the storm water discharges are not necessarily impacting areas used for water recreation (as is the case for other Southern California MS4s). However, we believe that protecting the important aquatic resources of the Santa Margarita River and its tributary streams provides a full justification for the monitoring program.

Response:

Comment noted. Modifications proposed for the tentative MRP retain the mix of environmental indicators to assess the impacts of urban runoff on aquatic resources.

2. Comment (District, March 10, 2004):

The Santa Margarita Region is quite different from the areas covered by the monitoring programs in Orange and San Diego Counties. During dry weather, most of the MS4s in the inland and coastal portions of the coastal counties have perennial flow fed by runoff from urban development. However, during dry weather there are no significant discharges from urban development to Murrieta and Temecula Creeks and the Santa Margarita River. Most of the MS4 discharges to the creeks that do occur in dry weather are very low volume and pond and evaporate or infiltrate within a short distance. A different, more limited set of monitoring requirements is warranted.

Response:

The tentative MRP as revised is applicable to the conditions in the upper Santa Margarita Watershed and are the minimum requirements necessary to make a reasonable effort, based upon current knowledge and the Permittees' resources to address the stated goals of the program. The fundamental components of this monitoring program, including mass loading, toxicity and bioassessment, are consistent with the *Model Monitoring Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California*¹.

The Permittees failed to identify what specific monitoring requirement in the tentative MRP should be relaxed based upon their contention discussed in this comment. The MRP for the Upper Santa Margarita Watershed requires neither the coastal outfall monitoring nor the extensive dry weather monitoring specified for San Diego and Orange Counties. Permittees in San Diego and south Orange Counties selected dry weather monitoring stations using the grid system (1/4 square mile) to ensure that sufficient stations are selected to represent the entire MS4. The San Diego and south Orange County permittees are also required to send a minimum of 25% of their dry weather samples to a laboratory for analysis. In contrast, the tentative MRP allows the Permittees to use their best professional judgment to determine the need for laboratory analysis.

There is nothing in the record documenting that most of the MS4s in the inland portions of San Diego and Orange Counties have perennial flows, or that there are no significant discharges from urban runoff to Murrieta and Temecula Creeks and the Santa Margarita River. In contrast to the Permittees' contention, the SDRWQCB has photodocumentation of numerous dry weather flows throughout the permitted area. Data presented by the Permittees has shown various persistent exceedances of urban runoff-related pollutants have been reported in Permittee annual reports for wet and dry weather². If anything this data indicates the need for expanded and targeted monitoring program to evaluate the extent and sources of these exceedances, not a limited monitoring program. Further, whether the urban runoff discharge is directly to a creek, or indirectly via the interflow of the creeks or to the groundwater aquifer, pollutants in these discharges still must be reduced to the MEP standard and still must not cause or contribute to an exceedance of a water quality objective. Dry weather as well as wet weather monitoring is necessary to verify compliance with these water quality objectives.

3. Comment (District, January 28, 2004):

The current monitoring program produced water quality data, which was summarized in Annual Reports. Comments on the monitoring program were not received from the Regional Board and the emphasis was on program development and implementation. Further, the Permittees were challenged by the requirement to submit three separate annual reports each year. Consequently, the monitoring program continued as presented in the CMP, with modifications made as appropriate, including the addition of a reference station in 2001.

¹ Southern California Stormwater Monitoring Coalition. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Committee. Final Draft: February 12, 2004.

² Permittees. 2002-2003 Annual Report, Volume 3. September 15, 2003. Section 10.

Response:

The purpose of this comment is unclear. As documented in the record, the SDRWQCB provided written comments regarding deficiencies in the Permittees' monitoring program on April 17, 2002³ and November 6, 2002⁴.

4. Comment (District, January 28, 2004):

The tentative Order proposes extensive monitoring requirements that will provide information of limited use to the Permittees in developing and implementing their programs to manage urban runoff.

Response:

The Permittees did not identify which aspects of the monitoring program will not provide useful information or how the Permittees' revised program will achieve the intent and stated goals of the monitoring program.

For the past 10 years, the Permittees have been implementing the Consolidated Program for Water Quality Monitoring⁵ that they developed in 1994. The objectives of the program included the following:

- Assessment of mass loadings from storm drains;
- Assess influence of land use on water quality;
- Verification and control of illicit discharges;
- Compliance monitoring of water quality;
- Assess effectiveness of various urban practices designed to control pollution;
- Identify problem areas and/or trends;
- Establish database for future reference;
- Identify baseline conditions; and
- Identify pollutants of concern.

Many of the program objectives remain the same, but based on the contents of Permittees' past Annual Reports, it is necessary to modify the monitoring requirements to obtain the data necessary to assess compliance with these objectives.

To date, assessment of the monitoring data being generated by the Permittees is limited by the deficiencies in their program. However, the Permittees should already have sufficient data to determine the nature and sources of pollutants in urban runoff, the extent and magnitude of problems, the relative contribution of pollutants from urban runoff as opposed to other pollutant sources in the watershed, and be able to implement management measures to target sources of pollutants. Instead, the Permittees have done nothing to develop and implement programs to target the various persistent exceedances of water quality objectives for urban runoff-related pollutants (MBAS, nitrogen,

³ SDRWQCB. CWC section 13267 Request for Information Regarding the Status of Program Implementation, April 17, 2002.

⁴ SDRWQCB. NOV No. R9-2002-360. November 6, 2002.

⁵ District. Consolidated Program for Water Quality Monitoring. 1994.

phosphorus, chromium, chlorpyrifos, diazinon, etc.) that have been detected over the past 10 years at all receiving water and outfall stations.⁶ The apparent inability of the Permittees to assess available water quality data suggests a misunderstanding on the part of the Permittees of the purpose of the monitoring program and the clear need for an improved, more specific program.

5. Comment (District, March 10, 2004):

Much of the proposed monitoring will address very low volume flows that infiltrate or pond before reaching a receiving water.

Response:

It is not clear which part of the proposed monitoring this comment refers to, and it contradicts the Permittees' proposed revised MRP. The majority of the Receiving Water Monitoring Program contained in the tentative Order is focused on monitoring storm water flows. Instead, the Permittees' proposed program, which would reduce the number of storm samples and double the number of dry weather samples to be taken at each receiving water station, is more focused on dry weather flows than the tentative MRP.

Furthermore, this comment implies that the infiltration of untreated urban runoff is not a concern of the Permittees'. As the Permittees have stated in their comments, urban runoff often infiltrates in the urban areas and resurfaces near the Temecula Gorge, where it again becomes surface water in the Santa Margarita River. Whether the urban runoff discharge is directly to a creek, or indirectly via the interflow of the creeks or to the groundwater aquifer, pollutants in these discharges still must be reduced to the MEP standard and still must not cause or contribute to an exceedance of a water quality objective.

Considering the use of local water for municipal and domestic supply⁷, the protection of ground water quality should be a high priority for the Permittees. As stated in a Watershed Protection Techniques article, "the quality of both surface water and groundwater in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization."⁸ According to the EPA, storm water discharges have been identified as one of the most prevalent possible contaminating activities from drinking water sources.⁹ Small amounts of some substances known to be present in urban runoff (heavy metals, pesticides and fecal coliform) may cumulatively degrade an aquifer, and the percolation of contaminated runoff can cause unacceptable consequences to ground water resources¹⁰. Protection of groundwater resources is necessary to protect the MUN and other beneficial uses of the entire watershed.

⁶ Permittees 2002-2003 Annual Report, Volume 3. September 15, 2003. Section 10.

⁷ Jenks, James. 2002. Santa Margarita Watershed Annual Watermaster Report: Water Year 2000-2001.

⁸ Stormwater Strategies for Arid and Semi-Arid Watersheds. *Watershed Protection Techniques*. 3(3): 695-706.

⁹ EPA. Municipal Storm Water and Ground Water Discharge Regulations in California. F-909-04-004. March 2004.

¹⁰ EPA. Municipal Storm Water and Ground Water Discharge Regulations in California. F-909-04-004. March 2004.

Finally, the majority of the requirements are focused on wet weather events (the requirements for toxicity testing of dry weather samples has been eliminated). Sampling the dry weather low flows, however, is a fundamental part of any urban runoff monitoring program, especially in ephemeral drainages where there should be no natural dry weather base flow. When present, these flows represent potential illicit discharges that must be characterized and traced.

6. Comment (District, March 10, 2004):

The emphasis of the proposed monitoring program is on producing a large number of data points, rather than quality data with practical utility to urban runoff managers.

Response:

As stated in the Permittees response to NOV No. R9-2002-360¹¹, previous monitoring efforts by the Permittees have produced insufficient data to assess mass loadings, assess influence of land use on water quality, assess effectiveness of management practices, identify problem areas or trends, or identify pollutants of concern, which are all goals of the current monitoring program. There has been no documented attempt to utilize previously collected data to improve or target management programs. The current program clearly did not produce quality data with practical utility to urban runoff managers.

Regarding the emphasis of the tentative MRP, it was designed to produce data that can be used to answer the specific management questions and achieve the goals of the program. Producing a large number of data points is not the emphasis of the tentative MRP. In contrast, the monitoring requirements have been reduced to the minimum necessary to provide useful information and achieve the goals of the program. Section IX of the Fact Sheet clearly describe how each program component can be used to answer certain management questions.

Furthermore, the tentative MRP emphasizes quality data by requiring the use of appropriate sampling and analysis protocols. The Permittees' failure to utilize EPA-required sampling protocols over the last 10 years of monitoring has resulted in data with questionable representatives and quality. For example, the federal regulations [40 CFR 122.21(g)(7)(ii) require a minimum of 3 flow-weighted samples to be taken within each hour of a storm and combined to create a sample that is representative of a significant portion of the storm event. The Permittees have been taking a single grab sample during or after a storm event, which is not adequate to measure pollutant loadings from a storm.

7. Comment (District, January 28, 2004):

Monitoring Program is not coordinated with other regions, and the Regional Board has disregarded the Consolidated Monitoring Program (CMP), developed in 1994.

Response:

Many of the receiving water monitoring requirements contained in the tentative MRP are consistent with the monitoring required for the Santa Ana Region (i.e., mass loading,

¹¹ District. Response to NOV No. R9-2002-0360. December 6, 2002.

toxicity, and bioassessment). The tentative MRP is also consistent with the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California (Model Monitoring Program)¹², as requested by the Permittees. Correspondence from the District¹³ states that, pursuant to the MS4 permit for the Santa Ana Region (Order No. R8-2002-0011), the CMP would be revised consistent with the Model Monitoring Program. There is no documentation in the record that a monitoring program consistent with the Model Monitoring Program has actually been developed for the Santa Ana watershed, and the Permittees failed to submit a proposed program as part of the ROWD. In the absence of a proposal, or even an example of what has been developed for the Santa Ana watershed, the SDRWQCB developed a program consistent with the Model Monitoring Program. It is not clear why the Permittees cannot coordinate the monitoring requirements contained in the tentative MRP with the requirements of other regions.

After 10 years of implementation, the CMP has failed to accomplish many of its objectives and has not provided the Permittees with adequate data to characterize storm water discharges or determine program effectiveness¹⁴. Continuing this program without much needed improvements would not be an effective use of Permittee resources.

8. Comment (District, March 10, 2004):

In the Fact Sheet (IX.A.2) discussion of the tentative MRP requirements, the EPA Phase I Parts 1 and 2 monitoring requirements, the framework that the SDRWQCB uses in developing the receiving waters monitoring program, and monitoring program costs are reviewed. However, the Phase I monitoring requirements do not apply to this permit as the Permittees applied for and were granted an Early Permit by the SDRWQCB with the support and approval of the EPA Region IX, which superseded these requirements.

Response:

The Permittees have not submitted documentation in support of their claim that Phase 1 requirements do not apply to them. The federal regulations, at 40 CFR 122.26(d)(2)(iii)(D), require a proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls, field screening points, or instream stations, why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment. Based on EPA's policy memorandum concerning reapplication requirements,¹⁵ it is clear that the requirement for a monitoring program for representative data collection applies to every permit term, not just the first one. This Phase I requirement for a monitoring program, therefore, applies to this tentative Order. For clarification purposes the other citations of monitoring requirements from 40 CFR that do not directly apply to the requirements in the tentative MRP have been deleted from the discussion in Section IX of the Fact Sheet.

¹² Southern California Stormwater Monitoring Coalition. Model Monitoring Program for Municipal Separate Storm Sewers in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Committee. Final Draft: February 12, 2004.

¹³ District. Response to NOV No. R9-2002-0360. December 6, 2002.

¹⁴ SDRWQCB 13267 Request for Information, April 17, 2002. NOV R9-2002-360, November 6, 2002.

¹⁵ EPA. 1996. Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems.

9. Comment (District, March 10, 2004):

The Regional Board should require other dischargers in the watershed, including Caltrans, Phase II dischargers, Tribal Lands, utilities and special districts to participate equally in funding the mandated receiving water monitoring program. The Permittees expect the Regional Board to take the lead in requiring financial participation in implementing the monitoring activities that are not specific to the Permittees by other dischargers within the Region, including other Phase I and II municipalities, Caltrans, and other permitted dischargers.

Response:

We concur that all entities in the watershed owning MS4s should implement a coordinated monitoring program for the watershed. Hopefully with the support of the Permittees, the SDRWQCB will be able to issue one watershed-based permit in 5 years to accomplish this goal.

For the time being, other permitted dischargers, including Caltrans and industrial facilities, conduct separate monitoring to characterize runoff from their facilities. For this reason, the Permittees are encouraged to coordinate with, and review data collected by, these other entities to help identify and address water quality problems in the watershed (tentative Order section K). The tentative Order does not require Permittees to monitor other dischargers in the watershed, but they should select reference station(s) to help determine the relative contribution of pollutants from the urban runoff within their jurisdiction.

10. Comment (Verbal – Dan York, City of Murrieta):

We understand that one of the goals of the Regional Board's strategic plan is to collect sufficient monitoring data of ambient waters in an effort to determine effluent standards and pollutant standards. Our concern is the delegation of these goals to the local agencies.

Response:

The SWRCB Strategic Plan¹⁶ highlights priorities to be addressed statewide over a 5-year period. Using the framework of the statewide plan, the Chairman of the SDRWQCB (John H. Minan) and the Executive Officer (John Robertus) developed a regionalized Strategic Plan for the SDRWQCB¹⁷. The SDRWQCB Strategic Plan identifies the dominant challenges that the San Diego Region faces and the strategies for addressing those challenges. Section B.2 of the plan identifies the need for ambient water quality data to maintain a clear picture of impacts over time from discharges of pollutants and from urban development.

11. Comment (District, March 10, 2004):

San Diego County receiving water monitoring efforts are focused along the coast, as that is where most of the population resides, not in the inland areas that are similar to the Santa Margarita Region.

¹⁶ SWRCB. Strategic Plan: A Vision for the Future. November 2001.

¹⁷ SDRWQCB Regionalization of the State Water Resources Control Board Strategic Plan. October 6, 2003.

Response:

San Diego County receiving water efforts are focused in the lower portions of the watersheds because these locations best represent the respective watersheds and are the most logical point to begin collecting data and measuring mass loadings for a large area. Similarly, the tentative MRP focuses on the lower portions of the upper watershed because these locations are the most representative of discharges from the urbanized/urbanizing areas of the Upper Santa Margarita Watershed.

12. Comment (District, March 10, 2004):

Unlike the Santa Margarita Region, which primarily maintains earthen channels with ephemeral flow, the inland areas in San Diego County have many concrete-lined channels with continuous flow. Dry weather samples are collected in the concrete channels.

Response:

The Permittees have not submitted documentation to verify this statement. However, the record¹⁸ documents that dry weather runoff exists in the Upper Santa Margarita Watershed. Although many earthen channels exist in the area, there are also many concrete-lined, or otherwise modified channels that frequently exhibit dry weather flows.¹⁹ The Dry Weather Monitoring Program allows Permittees to select their own sampling stations. The Permittees may choose to sample within concrete-lined channels or from outfall structures or manholes.

13. Comment (District, March 10, 2004):

The San Diego permit allowed for analysis of existing data in the first year and identification of monitoring station based on analysis of the existing data.

Response:

There has been more than sufficient time for Permittees to analyze data and make recommendations. As documented in various correspondence²⁰, since April 2002 the SDRWQCB has been requesting the Permittees to analyze their monitoring data and propose recommendations for future monitoring. After the Permittees failed to respond to these requests, it was expected that a proposed monitoring program, based on the past 10 years of data, would be included in the ROWD. The Permittees again failed to include a proposal in the ROWD. Therefore, the SDRWQCB developed receiving water monitoring requirements consistent with the Model Monitoring Program that will build upon existing data.

¹⁸ SDRWQCB, Megan Quigley and Eric Becker. Urban Runoff in the Upper Santa Margarita Watershed. February 2004. United States Bureau of Reclamation Southern California Area Office. Phase 3A Final Report Santa Margarita Watershed Supply Augmentation, Water Quality Protection, and Environmental Enhancement Program. Section 3.4.

¹⁹ SDRWQCB. Megan Quigley and Eric Becker. Urban Runoff in the Upper Santa Margarita Watershed. February 2004.

²⁰ SDRWQCB, 13267 Directive, April 17, 2002. SDRWQCB, Specifications for Updating the Storm Water Management Plan for the Santa Margarita Watershed in Riverside County for the Renewal of Order No. 98-02, July 19, 2002. SDRWQCB, NOV No. R9-2002-360, November 6, 2002.

14. Comment (District, March 10, 2004):

There is, on average, one receiving water monitoring station for each watershed within San Diego County, all of which are located near the coast. Conversely, the monitoring program proposed for the Santa Margarita Region requires three receiving water monitoring stations for a single inland watershed.

Response:

This comment contradicts previous comments that the Upper Santa Margarita Watershed is unique and warrants a different monitoring program specific to the area. Also, the tentative MRP proposes seven receiving water stations, not three.

For clarification regarding San Diego County's efforts, approximately 26% of the Santa Margarita watershed lies within San Diego County and approximately 90% of this area is undeveloped²¹. San Diego County monitors one mass loading station in the estuary, 6 bioassessment stations in the watershed, and will soon be adding additional stations to monitor Rainbow Creek.²²

Regardless of San Diego County's monitoring activities, the tentative MRP has been designed specifically for the Upper Santa Margarita Watershed to meet its stated goals. The station locations are immediately downstream from major urbanized drainage areas, as are those in San Diego County. Persistent exceedances of Basin Plan water quality objectives for urban runoff-related pollutants in previous data²³ support the need for multiple stations to evaluate the extent and magnitude of problems and determine sources of pollutants in each drainage area.

15. Comment (District, March 10, 2004):

Elements of the program are not appropriate because the Santa Margarita watershed is semi-arid.

Response:

It is not clear from this comment which elements of the monitoring program are not appropriate because of the semi-arid climate.

The fact that the watershed is semi-arid, as is most of southern California, does not mean that monitoring is inappropriate or unnecessary. Semi-arid conditions actually provide a reason for special attention to wet weather discharges when they do occur, as well as to dry weather flows. According to the EPA, "extended dry seasons in areas such as the southwestern United States result in pollutant loads distinctly higher than in other parts of the country during the first several storms of the wet season."²⁴ Further, a Watershed

²¹ San Diego County Municipal Copermittees 2002-2003 Urban Runoff Monitoring Final Report. MEC Analytical Systems, Inc. January 2004.

²² San Diego County Municipal Copermittees 2002-2003 Urban Runoff Monitoring Final Report. MEC Analytical Systems, Inc. January 2004.

²³ Permittees 2002-2003 Annual Report, Volume 3. September 15, 2003. Section 10.

²⁴ EPA. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Storm Sewer Systems. EPA 833-B-92-002. November 1992.

Protection Techniques article states that urban water resources of the southwest are strongly influenced by storm water runoff and by the watershed development that increases it.²⁵

16. Comment (District, January 28, 2004):

The requirement to do “compensatory monitoring” does not make sense in an ephemeral system. As previously mentioned, the Santa Margarita Region receives approximately 12 inches of rain annually in the urbanized portions of the watershed. In the 2003-2004 reporting period, the watershed has received less than 2 inches of rain over the course of several small storms. This is indicative of the current drought cycle that has impacted Southern California for several years. Generating enough stormwater runoff to initiate water quality sampling requires a fairly significant storm of several hours duration.

Further, the storm must be forecast early enough that the water quality sampling teams can mobilize, the labs can be notified, etc. The District has established a clear procedure under which conditions are correct for mobilization:

It is not uncommon for weather forecasters to under-predict or over-predict rainfall. Rainfall events can also fall during holiday periods, such as the Christmas Day storms last year, and can have an impact on the Permittee’s ability to mobilize the significant numbers of staff required to sample storm events. For these reasons, it is common that three wet weather samples not be collected during a particular season. This is not due to negligence on the part of the Permittees, but on the variability in the accuracy of weather forecasts, the often-insignificant amount of rainfall that does occur and the length of the storms. Not only is it unclear why the Regional Board believes it is necessary to assign “compensatory monitoring” where the collection of samples is beyond the reasonable control of the Permittees, it is unclear what purpose this monitoring would serve.

Response:

The requirement to conduct compensatory monitoring has been removed from the tentative MRP in order to simplify the program and allow limited resources to be focused on sampling three representative storms per year. The SDRWQCB, however, believes that the requirement for compensatory monitoring is appropriate and may be applied in future programs. It was included in the tentative MRP to ensure that sufficient data is collected to meet the objectives of the program. In addition to complying with the federal NPDES regulations, monitoring three storms a year is necessary to characterize discharges and determine persistence of toxic pollutants. Because of the variability of storm water runoff, exceedances of water quality objectives and toxic responses can vary from storm to storm. Without an adequate number of samples, discharges of toxic pollutants may not be identified. Furthermore, the Permittees’ previous sampling frequencies have been insufficient. For example, no wet weather samples were collected during the 2000-2001 monitoring year. This has resulted in a lack of data sufficient to make the evaluations and determinations that should be made after 10 years of monitoring. The requirement for compensatory monitoring was included to prevent this from recurring during the next permit term.

²⁵ Stormwater Strategies for Arid and Semi-Arid Watersheds. *Watershed Protection Techniques*. 3(3):695-706.

Furthermore, the requirement makes sense because there are typically more than three rain events per year that are greater than 0.2 inches of rainfall (even during dry years).²⁶ If the Permittees fail to collect 3 samples in one year, there should be ample opportunity to conduct compensatory monitoring during the 5-year permit term.

Although the requirement for compensatory monitoring has been removed, it is expected that the Permittees will make every possible effort to ensure that the required number of storms a year will be sampled at each station. In the event of an extraordinarily dry year that prevents collection of the required number of samples, the Permittees will be required to submit documentation of lack of flow from appropriate USGS gauging stations. All storm water management agencies struggle with mobilization and overtime cost issues, but a storm event during non-working hours is not a valid excuse for not sampling.

17. Comment (District, March 10, 2004):

Continual dry weather flows required for toxicity and bioassessment occur only at the bottom of the watershed where groundwater rises to the surface. The presence of this rising ground water confounds evidence of urban runoff impacts as these flows may reflect natural deposits or even past agricultural land uses. During dry weather, toxicity, chemical and bioassessment analysis will reflect habitat impacts due to rising ground water, natural springs, and permitted discharges. During storm conditions, toxicity and chemical analysis will additionally include the inputs of discharges from urban, agriculture and open space, among others.

Response:

Considering the Permittees current monitoring locations, this comment is unclear. As part of the current monitoring program, the Permittees chose to locate three stations in the lower part of the watershed (lower Murrieta Creek, lower Temecula Creek, and the Santa Margarita River). The Permittees' revised MRP proposes to continue monitoring (chemistry, toxicity, and bioassessment) at two of these stations. Further, at the February 11, 2004 Regional Board Meeting, Linda Garcia of the District stated, "by sampling these stations, we'd be monitoring watershed health and track changes as non-allowed flows are removed from the watershed." The Permittees' current and proposed monitoring locations conflict with Comment No. 17.

Neither the tentative MRP, nor the CWC section 13225 directive²⁷ to conduct bioassessment, required that these stations be monitored. The SDRWQCB, however, highly recommends monitoring these locations at the lower end of the upper watershed because they are representative of storm water discharges from the entire permitted area.

Furthermore, the SDRWQCB does not agree that sampling rising groundwater is not relevant to the MS4 monitoring program. As documented in the record, the quality of

²⁶ Permittees 2002-2003 Annual Report, Volume 3. September 15, 2003. Section 10.

²⁷ SDRQCB. California Water Code Section 13225 Directive for Assessing Water Quality Impacts of Urban Runoff in the Santa Margarita Watershed. March 6, 2003.

both surface and ground water in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization.²⁸ Small amounts of some urban runoff-related pollutants may cumulatively degrade an aquifer.²⁹ Although rising ground water may reflect natural deposits or past agricultural land uses, it may also reflect impacts from urban runoff that has infiltrated farther up in the watershed. This information should be useful for making management decisions regarding the protection of ground water.

18. Comment (Verbal – Linda Garcia, District):

The tentative MRP requires monitoring of stations that are not safe. “We wanted to make sure there would be flexibility to move the actual sampling location somewhere to like over a bridge maybe or somewhere where it’s safer so the wet weather sampling location may be not exactly the same place as the dry weather location because it would be unsafe to do so during wet weather.”

Response:

The statement that the tentative MRP requires monitoring of stations that are not safe is unsupported. The tentative MRP does not specify exact sampling locations, or imply that samples cannot be collected from a bridge, or other safe location. Safety is a priority, and it is the Permittees’ responsibility to ensure that staff are properly trained to collect samples and are aware of the hazards of fast-moving water. It is assumed that samples will be collected from a safe location. There are bridges just upstream from the confluence with Murrieta Creek across each of the suggested monitoring stations in the tentative MRP. Permittees, however, are given the flexibility to select alternative locations.

19. Comment (District, January 28, 2004):

During dry weather, regular surveys of their MS4s need to be conducted by each Permittee. If water is observed, its source must be located and eliminated if not an allowed discharge.

Response:

The SDRWQCB concurs with this comment.

20. Comment (District, January 28, 2004):

With the increased removal of illicit discharges from the MS4, there should be no flow due to urban runoff in the tributaries that feed Murrieta and Temecula Creeks during dry weather.

Response:

In the event that all illicit discharges are eliminated, many other non-prohibited dischargers exist, such as irrigation water runoff. It is not reasonable to say that no urban

²⁸ Stormwater Strategies for Arid and Semi-Arid Watersheds. *Watershed Protection Techniques*. 3(3): 695-706.

²⁹ EPA. Municipal Storm Water and Ground Water Discharge Regulations in California. F-909-04-004. March 2004.

runoff flow will be present. As documented by dry weather sampling, permitted non-storm runoff conveys pollutants from urbanized areas in the same manner as storm water runoff. Consequently, monitoring of dry weather runoff provides a direct measurement of the effectiveness of source control measures that are being implemented to reduce pollutants in discharges from MS4s. In the event that no dry weather flow or ponded water is present, sampling is not required (tentative MRP Section II.B.2.b).

B. COMMENTS ON SPECIFIC SECTIONS OF THE MRP

21. Comment - Section II.A.1.a.2 (District, March 10, 2004):

The Permittees request to change the monitoring year from October 1 through September 30 to July 1 through June 30 for reporting purposes.

Response:

The MRP has been modified per this request.

22. Comment - Section II.A.1.a.3 (District, March 10, 2004):

The NPDES Storm Water Sampling Guidance Document (EPA 833-B-92-001) does not indicate that compensatory sampling is required if three sampleable storm events do not occur in a given reporting period.

Response:

Although the SDRWQCB believes that the requirement to conduct compensatory sampling is appropriate, it has been removed in response to Permittee comments. It is expected, however, that Permittees will make every practicable effort to ensure that the required number of storms a year will be sampled at each station. In the event of an extraordinarily dry year that prevent collection of the required number of samples, the Permittees will be required to submit documentation of lack of flow from appropriate USGS gauging stations. All municipalities struggle with mobilization and overtime issues. A storm event during non-working hours is not a valid excuse for not sampling.

The NPDES Storm Water Sampling Guidance Document referenced does not specifically require “compensatory sampling.” However, Section 5.1 of the document discusses incomplete sampling related to the permit application process. It states that the permitting authority may accept incomplete sampling data if there was no rainfall prior to the submission deadline, as long as data will be submitted as soon as possible. This rationale was applied to the tentative MRP because the Permittees have a history of failing to follow EPA protocol for sampling 3 storm events per year at all stations. For example, no wet weather samples were collected during the 2000-2001 monitoring year. This has resulted in a lack of data sufficient to make the evaluations and determinations that should be made after 10 years of monitoring. Compensatory sampling would ensure that sufficient data is collected to characterize storm water discharges and determine persistence of toxic pollutants.

23. Comment - Section II.A.3.a – Bioassessment (District, March 10, 2004):

This section does not indicate that the purpose of bioassessment is to determine the impact of urban runoff on biological integrity. A bullet item should be added to state that the bioassessment station should also receive regular discharge of urban runoff originating within the Permittee's jurisdiction.

Response:

This section of the tentative MRP has been modified to read:

The Permittees shall conduct bioassessment monitoring at the 3 triad stations to evaluate the biological integrity of receiving waters, to detect biological responses to pollutants in urban runoff, and to identify probable causes of impairment not detected by chemical and toxicity monitoring.

24. Comment – Bioassessment (District, March 10, 2004):

The habitat expected in the assessment may not be present in an ephemeral system. The absence of this expected habitat may result in a ranking of “moderate” or “poor” and is not a reflection of urban runoff discharges.

Response:

The Permittees have not submitted documentation to support their concern about the habitat, but the Department of Fish and Game and the SDRWQCB previously selected and monitored the sites in question because they were determined as suitable for bioassessment monitoring³⁰. Several reference stations in the watershed have also been monitored. The 2002 Bioassessment Report documents that the reference stations, which were characterized by a high degree of biological and physical integrity, are physically similar to those located in lower Murrieta and Temecula Creeks, which exhibited degraded biological and physical integrity.³¹

Despite the existing data and staff recommendations, the SDRWQCB provided the Permittees the opportunity to select alternate bioassessment monitoring stations. The Permittees have proposed lower Murrieta Creek, lower Temecula Creek, and a reference station, and these locations have been included in the MRP.

25. Comment - Section II.A.3.d – Bioassessment Reporting (District, March 10, 2004):

This section should be relocated to II.B. (Monitoring Reporting Requirements) on page 13.

Response:

Comment noted. Change made.

³⁰ California Department of Fish and Game. 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

³¹ California Department of Fish and Game. 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

26. Comment - Section II.A.4.b – Toxicity Reduction Evaluations (TRE) (District, March 10, 2004):

The TRE should be stated to focus on elimination of urban runoff sources of toxicity in receiving waters.

Response:

The second paragraph of Section II.A.4.b. clearly states that a TRE shall be initiated when a TIE identifies a pollutant associated with urban runoff as a cause of toxicity. Further language is not necessary.

27. Comment – TREs (District, March 10, 2004):

TREs are not a requirement in San Diego County and TIEs were not required until the second year to allow for sufficient toxicity and bioassessment data to be collected to verify persistent toxicity.

Response:

The tentative MRP has been modified so that a TIE is not required until persistent exceedances of water quality objectives and evidence of toxicity occur. This is consistent with the decision framework for interpreting triad results in the Model Monitoring Program³².

The fact that TREs are not a requirement in the San Diego County MS4 permit does not justify removing the requirement from the tentative MRP. As the Permittees commented several times, the Upper Santa Margarita Watershed is unique and warrants its own specific monitoring program. Further, the requirement to follow up on and to implement measures to eliminate water quality problems resulting from urban runoff is a fundamental part of all MS4 permits in the San Diego Region. Although TREs are not specified in the San Diego County MS4 monitoring program, a similar process of iterative BMP implementation to address pollutant sources is specified in the Receiving Water Limitations language and is also expected during the annual data review and reporting process.

28. Comment (SWRCB):

On page 3 of the MRP, Table 1 should indicate whether the constituents should be analyzed for total or dissolved fractions.

Response:

Comment noted. Fractions have been included.

29. Comment (SWRCB):

On page 5, top of Table 2 should be dropped to next page.

Response:

Comment noted.

³² Southern California Stormwater Monitoring Coalition. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California, Final Draft. February 12, 2004. Table 5-4.

30. Comment (SWRCB):

On page 7, under Special Studies, there is mention of a numeric criteria to “minimize erosion of natural stream channels and impacts to instream habitat.” This statement doesn’t indicate what parameters the discharge should develop criteria for, even though it does give the intent. Clarification would help avoid confusion. Also, would this criteria be subject to Board approval?

Response:

Comment noted. The first sentence of the Special Study description has been revised to state: “The Permittees shall develop and implement a study to determine numeric criteria for controlling the volume, velocity, duration, and peak flow rate of runoff from new development (required in Section F.2.b.9 of tentative Order No. R9-2004-001) to minimize erosion of natural stream channels and impacts to instream habitat.”

31. Comment (SWRCB):

Errant page break on page 10 of the MRP.

Response:

Comment noted.

32. Comment – Special Study (District, March 10, 2004):

The specific special study should be removed. The requirement is based on a Water Resources Impact article that indicates that several current methods to address increased runoff do not adequately address erosive velocities. The Permittees developed increased runoff and erosion control criteria that exceeds the standards referenced in the Water Resources Impact article. The criteria, which have been in place for over 9 years, address a full array of storm durations and frequencies and also require erosive velocity control at outlet structures. It should be noted that increased runoff control would have done nothing to mitigate the severe channel erosion and flooding problems that occurred during the 1993 floods.

Response:

No change to the tentative MRP has been made in response to this comment. If the Permittees have already developed the required numeric criteria, then conducting this special study may simply involve monitoring erosion rates in natural channels to verify the existing criteria. The Permittees, however, have not documented that their existing criteria is adequate to control the volume, velocity, duration and peak discharge rate of runoff to maintain or reduce pre-development downstream erosion and protect in-stream habitat. It should be noted that controlling post-development peak discharge rates for flood control purposes and erosive velocity control at outlet structures does not address the volume or duration of runoff. In fact, these strategies often increase the duration of runoff, which, as documented in the record, can exacerbate channel erosion. Additional or revised criteria may eventually need to be developed in order to prevent post-development erosion. Considering the rate of development and the erosive nature of the natural drainages in the permitted area, this requirement is critical.

Furthermore, MS4 permits in San Diego, Orange, Los Angeles, and Ventura Counties have similar requirements. Because of this, the Southern California Stormwater Monitoring Coalition (SMC) is overseeing a study (funded by Los Angeles County) to assess the connection between stream erosion and urbanization in natural drainage systems in southern California. Ventura County has also conducted a similar study. Based on the amount of work already dedicated to this issue, the Permittees are in an excellent position to save resources by building on and continuing the existing work. A draft technical report on the SMC's Peak Discharge Impact Study is tentatively scheduled to be complete in October 2004. The Permittees are encouraged to apply the recommendations and models to an area in the Santa Margarita Watershed in order to determine if the existing criteria is effective, or to revise it.

The tentative MRP gives the Permittees until the fourth year annual report to submit the criteria and an implementation schedule. This is more than twice the amount of time given to other southern California municipalities to study, develop and implement the same requirement. The SDRWQCB, however, has considered the concerns of the Permittees and determined that it is reasonable to allow four years to conduct this study.

Regarding the last sentence of the comment, this special study is not intended to address impacts that occur during major flood events. It is the smaller, more frequent events that this study, and Requirement F.2.b.9 of the tentative Order, are intended to address. These smaller storms, which would produce little or no runoff in undeveloped conditions, result in many small to medium size runoff events that induce erosion of natural channels.³³

C. PROPOSED REVISED MRP (Entire Section from District, March 10, 2004)

As part of their comments, the Permittees proposed a revised MRP, which included modifications to the Receiving Water Monitoring Program and the Dry Weather Monitoring Program. Overall, the SDRWQCB finds that the original requirements in the tentative MRP are appropriate for the Upper Santa Margarita Watershed and would produce the information necessary to meet the goals and objectives of the program. To reduce costs, however, we have significantly reduced the monitoring requirements to the essential equivalent of the Permittees' proposed revised MRP. Changes to the Receiving Waters and Dry Weather Monitoring Programs are discussed below.

Proposed Receiving Waters Monitoring

The table below provides a summary of the proposed changes and changes that were made to the Receiving Waters Monitoring Program. Individual comments and SDRWQCB responses are below the table.

³³ Southern California Coastal Water Research Project. Final Work Plan: Peak Discharge Impact Study. January 19, 2004. Section 1.5. Prepared by Earth Tech, Inc.

Receiving Water Monitoring Changes

Monitoring Component	Tentative MRP	Permittee Proposal	Revised MRP
Chemical Mass Loading	3 wet weather and 2 dry weather samples at 7 stations per year 35 station events/year	2 wet weather and 4 dry weather samples at 3 stations per year 18 station events/year	3 wet weather and 2 dry weather samples at 3 stations 15 station events/year
Toxicity	2 wet weather and 2 dry weather samples at 7 stations per year with 2 species 28 station events/year	2 wet weather and 2 dry weather samples at 3 stations per year with 2 species 12 station events/year	3 wet weather at 3 stations per year with 3 species 9 station events/year
Bioassessment	Sample 4 stations in May and October 8 station events/year	Sample 3 stations in May and October 6 station events/year	Sample 3 stations in May and October 6 station events/year
Tributary	None proposed 0 station events/year	4 dry weather samples at 4 stations per year 16 station events/year	2 wet weather and 2 dry weather samples at 4 stations per year 16 station events/year
Special Study	Develop numeric criteria to address volume, velocity, duration and peak rate of runoff	Deleted study	Special study remains unchanged

33. Comment:

The Permittees proposed to conduct triad (chemistry, toxicity, and bioassessment) monitoring at 3 stations (lower Murrieta, lower Temecula, and a reference station).

Proposed triad monitoring included:

- Chemical mass loading monitoring of 2 storm events and 4 dry weather events per year,
- Toxicity monitoring of 2 storm events and 2 dry weather events per year, and
- Bioassessment in May and October of each year.

Response:

- a. The triad monitoring has been reduced to the three proposed stations, resulting in 3 bioassessment stations instead of 4, and 3 toxicity monitoring stations instead of 7.
- b. The proposal to sample two storm events per year is not sufficient to meet the protocol specified in 40 CFR 122, or that recommended in the Model Monitoring Program. For these reasons, and because limited data is available to characterize

urban runoff discharges, it is necessary to sample at least 3 storm events per year at these stations. Therefore, the sampling frequencies of 3 storm events and 2 dry weather events remain unchanged.

- c. To further reduce costs, the requirement to test 2 dry weather events for toxicity has been removed. Instead, Permittees are only required to analyze the 3 storm samples at the 3 triad stations for toxicity. In total, toxicity testing has been reduced from 28 toxicity tests per year to 9.
- d. To aid in data sharing, the toxicity test species have been modified to be consistent with those used by San Diego County to monitor the mass loading station at the bottom of the Santa Margarita Watershed. This results in 3 test species instead of 2, but because of the total reduction of toxicity testing, this will not result in an increase in cost.

34. Comment:

The Permittees proposed to conduct quarterly dry weather sampling at 4 tributary stations, instead of chemistry and toxicity sampling of 3 wet weather and 2 dry weather samples at 4 tributary stations.

Response:

As discussed above, the requirement to test for toxicity at these additional stations has been removed to reduce cost.

Determining pollutant loadings during storm events from these urbanized drainage areas is necessary to prioritize management actions and evaluate program effectiveness. Based on previous data³⁴, persistent exceedances of water quality objectives for various urban runoff-related pollutants in wet and dry samples have been detected at all stations. It is important to monitor tributaries to evaluate the extent and magnitude of these pollutants and watch for trends of improvement as management measures are implemented. It will also help the Permittees determine the relative contribution of urban runoff to total pollutant loading (i.e., comparisons of loadings from mostly urbanized drainages to total loadings). For these reasons, the requirement to sample storm events at tributary stations remains in the tentative MRP. To be consistent, however, with the Permittees' proposal to sample 4 events per year at these stations, the requirement has been reduced from 3 wet weather samples to 2. Sampling 2 wet weather events at these tributary stations will provide data to help answer the management questions listed in Section II.A of the tentative MRP, as well as data to assess permitted non-storm water discharges that occur during dry weather.

35. Comment:

The Permittees proposed to analyze samples for diazinon and chlorpyrifos only if they were found to exceed Basin Plan Objectives during the first storm of the year at the triad station.

Response:

³⁴ Permittees. 2002-2003 Annual Report, Volume 3. September 15, 2003. Section 10.

As documented in the record³⁵, diazinon and chlorpyrifos concentrations exceeded the California Department of Fish and Game³⁶ standards (which are used by the Regional Board) during the majority of sampling events at all outfall and receiving water stations monitored pursuant to Order No. R9-98-02. There is sufficient data to conclude that these are constituents of concern throughout the urbanized area and must be consistently analyzed for. During SWMP development, management measures to target these pollutants should be developed.

36. Comment:

The Permittees proposed to analyze tributary samples for a reduced list of constituents.

Response:

To reduce costs, this change has been made, except for the diazinon and chlorpyrifos proposal discussed in response to Comment No. 35.

37. Comment:

The Permittees propose to modify Table 5 so that persistent exceedances of water quality objectives and persistent toxicity are required to trigger follow-up actions.

Response:

Storm water discharges are highly variable. Pollutant types and the presence of toxicity can change markedly with every event. The fact that toxicity may not be persistent does not mean that there is no impact to water quality or beneficial uses. Therefore, it is important to evaluate, to some extent, all toxic events and exceedances. However, to reduce costs and to be consistent with the Model Monitoring Program³⁷, Table 2 in the tentative MRP has been modified per the Permittees' proposal.

38. Comment:

The Permittees proposed to remove the TRE section.

Response:

The TRE section is a necessary link between the monitoring and management programs. A TRE involves the development and implementation of management measures to target problems identified in the monitoring program. This is the underlying purpose of the MS4 program and the Receiving Water Limitations language. The TRE requirements do not go above and beyond what is currently expected. For that reason, there should not be significant additional costs associated with this section. The TRE section remains unchanged.

39. Comment:

³⁵ Permittee 2002-2003 Annual Report Appendix, Water Quality Monitoring Raw Data Graphs. September 15, 2003.

³⁶ California Department of Fish and Game. Brian Finlayson and Stella Siepmann. Water Quality Criteria for Diazinon and Chlorpyrifos. April 26, 2002.

³⁷ Southern California Stormwater Monitoring Coalition. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Advisory Committee, Final Draft. February 12, 2004.

The Permittees propose to remove the Special Study to develop numeric criteria to comply with Section F.2.b.9 of the tentative Order.

Response:

This study remains in the Receiving Waters Monitoring Program. A detailed response to a specific comment is included above in response to Comment No. 32.

Proposed Dry Weather Monitoring Program

For the reasons discussed below, the Dry Weather Monitoring Program (name has been changed to Illicit Discharge Monitoring) in the tentative MRP remains essentially unchanged. It is important to note that the program in the initial tentative MRP had already been significantly reduced from the dry weather monitoring requirements contained in the San Diego County and Orange County MS4 permits to allow the Permittees to make their own determinations on when to send samples to a laboratory, as opposed to analyzing a minimum of 25% of samples. This previous change was made in response to the Permittees' concerns regarding the costs of monitoring and their contention that the characteristics of the Upper Santa Margarita Watershed were different than coastal areas.

40. Comment:

The Permittees proposed a Dry Weather Monitoring Program that emphasizes identifying sources and not sampling. The proposal includes first attempting to find the sources of discharges before taking a sample. If the source is located, it will be eliminated, unless it is an allowed discharge under Section B.2 of the permit. Samples are taken as a last resort if the source cannot be identified.

Response:

Dry weather flows often represent various sources (i.e., a combination of landscape irrigation, rising ground water, commercial illicit discharges, residential car wash water, etc.). It is unrealistic to assume that Permittee inspectors will be able to track dry weather flows upstream and identify all the dischargers without taking any samples. In some cases this may be possible, but this does not preclude the need to sample. Even if all illicit discharges can be identified and eliminated within a reasonable amount of time, sampling is necessary to characterize the discharges, identify pollutants of concern, and determine if non-prohibited discharges are contributing pollutants to the MS4. Data is also important for any enforcement actions that the Permittees may need to take to enforce their local ordinances and the MS4 permit.

In addition to characterizing illicit discharges, analyzing dry weather flows is also important to characterize the permitted non-storm water discharges listed in Section B.2 of the tentative Order. These discharges may be a significant source of pollutants, or may carry pollutants from other sources. If so, these discharges must be addressed in accordance with Section B.2 of the tentative Order.

Furthermore, the tentative MRP only requires the Permittees to send samples to a laboratory for analytical testing if field screening or visual observations indicate a problem. Field screening is not costly or time consuming, and it provides sufficient data to determine if a problem exists and the need for further analysis. Considering that the Permittees already have the field screening equipment, the monitoring and labor costs of the original Dry Weather Monitoring Program should not be significantly more than the Permittees' proposal.

41. Comment:

Permittees propose that if flow is trickling or ponded and has no direct connection to a receiving water, sample collection is not required.

Response:

Analysis of trickling or ponded water is necessary and useful for several reasons. First, determining the constituents and their relative amounts is necessary for identifying potential sources of the discharge. Second, the data is useful for determining BMP effectiveness. For example, the Permittees could use dry weather data to show that efforts to educate residents and businesses on the use of fertilizers has reduced amounts of phosphorus in MS4 discharges. A third reason to analyze trickling or ponded dry weather flows is to determine potential impacts to creek interflow or ground water. According to the EPA, storm water discharges have been identified as one of the most prevalent possible contaminating activities for drinking water sources.³⁸

Furthermore, illicit discharges, regardless if they are trickling or ponded, are in violation of the federal NPDES regulations³⁹, and Permittees are responsible for identifying the source and enforcing local ordinances and the MS4 permit.

42. Comment:

The Permittees proposed a reduced list of field screening parameters, based on the ability of their existing sample probes.

Response:

To save the Permittees the cost of purchasing new equipment, the program has been modified to reflect this proposal. The required field observations and reduced screening parameters should provide sufficient information to determine if a problem exists. Because of this reduction, and to ensure that all pollutants with a history of persistently exceeding water quality objectives are included, 3 additional parameters have been added to the list of constituents to be analyzed at a laboratory.

D. MONITORING PROGRAM COST ANALYSIS COMMENTS

³⁸ EPA. Municipal Storm Water and Ground Water Discharge Regulations in California. F-909-04-004. March 2004.

³⁹ 40 CFR 122.26(d)(2)(iv)(B)(1)

The Permittees submitted comments on the cost information provided in Section IX.3 of the Fact Sheet, as well as an estimate of costs for their proposed revised MRP. Responses to comments from each submittal are below.

Fact Sheet Cost Assessment Comments

43. Comment (District, January 28, 2004):

The cost of the proposed monitoring program will be burdensome.

Response:

To make the improvements to the current monitoring that are necessary to achieve the stated goals of the program, an increase in cost is inevitable. In response to the comments, however, we have significantly reduced the monitoring requirements. Specific reductions are listed in the table and discussed above in responses to Comment Nos. 33 - 42.

44. Comment (District, March 10, 2004):

Although the tentative MRP includes discussions of specific legal authority and monitoring program requirements, no information is provided regarding the technical justification or validity of the proposed program. Rather, the Fact Sheet attempts to justify the appropriateness of the tentative MRP based on per capita costs.

Response:

Technical justifications for the tentative MRP and each of its components is described in IX. of the Fact Sheet. The justification centers on the federal storm water regulations as well as recommendations from the Model Monitoring Program⁴⁰. Section IX of the Fact Sheet also includes technical discussions of each component and its appropriateness as an indicator of water quality, including references to technical documents. The intent of the cost estimates included in the Fact Sheet was to provide information regarding potential costs for different program components. The per-capita cost comparison was conducted to provide information on the relative costs of monitoring programs in the San Diego Region.

To avoid further confusion regarding the intent of the cost information, the per-capita cost comparison has been removed from the Fact Sheet.

45. Comment (District, March 10, 2004):

Pages 68 and 69 of the Fact Sheet contain a discussion and tables describing how per capita monitoring costs were calculated for the coastal counties and an estimate of what Santa Margarita Region Permittees should be expected to pay based on equivalent per capita costs.

Response:

⁴⁰ Southern California Stormwater Monitoring Coalition. Model Monitoring Program for Municipal Separate Storm Sewers in Southern California: A report from the Stormwater Monitoring Coalition's Model Monitoring Technical Committee, Final Draft. February 12, 2004.

This comment does not accurately reflect the discussion in the Fact Sheet. Pages 67 and 68 of the Fact Sheet state that the estimated per capita cost of the tentative Receiving Water Monitoring Program is reasonable based on the per capita costs of other MS4 monitoring programs with similar components and objectives. It does not state that the Permittees are “expected” to pay as much as other Permittees in the San Diego Region.

In order to avoid further confusion regarding the intent of the cost information, Tables 5 and 6 have been omitted from the revised Fact Sheet.

46. Comment (District, March 10, 2004):

The Fact Sheet lists the Orange and San Diego County populations as 2,800,000. The correct population figure is 2,900,000.

Response:

Comment noted. To avoid confusion, the discussion regarding per capita costs has been removed from the revised Fact Sheet.

47. Comment (District, March 10, 2004):

The listed Orange County budget includes the cost of dry weather field screening, but the San Diego budget does not. Calculation of an average where the two figures are not on the same basis is invalid.

Response:

The cost estimates were not intended to represent exact costs. The Fact Sheet states that the budgets for each county were estimates, and it clearly indicates that the Orange County budget includes dry weather field screening and San Diego County’s does not. The SDRWQCB was not able to obtain a breakdown of Orange County’s budget to separate the costs of each program component prior to the issuance of the Fact Sheet. It was determined, however, that an estimated cost comparison would still be useful to provide an indication of potential costs for the Permittees.

In order to avoid further confusion regarding the intent of the cost information, Tables 5 and 6 have been omitted from the revised Fact Sheet.

48. Comment (District, March 10, 2004):

The Riverside County monitoring budget in Table 6 in the Fact Sheet does not include labor costs. An estimated labor cost of \$20,000 was presented to SDRWQCB staff during an earlier workshop and was not included in the tentative Fact Sheet. The sum of these errors and omissions results in a significant underestimate of the relative per capita costs of the tentative MRP.

Response:

The Riverside County monitoring budgets included in the Fact Sheet accurately reflect the monitoring program budgets that were reported in the Permittees’ 2001-2002 and 2002-2003 annual reports. There is no documentation in the record supporting the \$20,000 estimated labor cost. A verbal comment at a workshop does not constitute

documentation in the record. Regardless, the January 23, 2004 workshop occurred after the release of the tentative Order and Fact Sheet. Therefore, it would not have been possible to include this information in the Fact Sheet.

In order to avoid further confusion regarding the intent of the cost information, Tables 5 and 6 have been omitted from the revised Fact Sheet.

49. Comment (District, March 10, 2004):

On page 68 of the Fact Sheet, the average per capita cost is shown as \$0.57, with the equivalent amount to budget calculated as \$97,000. Multiplying \$0.57 with 168,450 gives \$96,016.

Response:

As stated in the Fact Sheet, the cost figures are estimates to reflect potential program costs. The error does not significantly change the calculated amount. This discussion related to Tables 5 and 6 has been removed from the revised Fact Sheet.

50. Comment (District, March 10, 2004):

Table 8 of the Fact Sheet presents an estimation of annual costs for the tentative Receiving Water Monitoring Program. Under the Monitoring Component column, the number of station events for wet and dry mass loadings is listed as 30 station events per year. With seven stations, and five samples collected at each station, there are actually 35 station events per year. Like wise for toxicity monitoring, the number of station events should be listed as 28 rather than 24.

Response:

Comment noted. Station events have been reduced in response to comments, and Table 8 has been removed from the revised Fact Sheet.

51. Comment (District, March 10, 2004):

In Table 8, the estimated annual cost for the tentative Receiving Water Monitoring Program is \$122,068, which equates to \$0.72 per capita, much higher than the \$0.57 average, and almost as high as the Orange County per capita cost. This does not include potential costs for TIE/TRE requirements or the required special study.

Response:

The purpose of the cost estimates is to provide a ballpark idea of potential monitoring program costs. As discussed on page 68 of the tentative Fact Sheet, the estimated \$122,068 assumes that every dry weather mass loading event will be sampled and analyzed for chemistry and toxicity. Based on previous annual reports, and the hydrology of the area, many dry weather events will not be sampleable, which will significantly reduce the estimated cost. This overestimation for dry weather analysis will account for some of the costs of additional monitoring, such as TIEs.

To avoid further confusion regarding the intent of the cost comparison, Tables 5 and 6 and the related discussion of per capita cost comparisons have been removed from the revised Fact Sheet.

52. Comment (District, March 10, 2004):

The sum of these calculation errors is an underestimate of the fiscal impact of the monitoring requirements on the citizens of the Santa Margarita Region. The Permittees recalculated Fact Sheet Tables 6 and 8 and the corrected per capita cost computes to \$0.82, significantly higher than that of either of the coastal counties that have greater populations, continuous discharges of urban runoff, REC1 receiving waters, and many high priority receiving water impairments.

Response:

It is not clear how the error in the populations of Orange County and San Diego County in Table 6 causes an underestimation of the fiscal impact of the monitoring requirements.

Also, \$0.82 is not significantly higher than Orange County's per capita cost of \$0.79. Considering that coastal outfall monitoring and Aliso Creek bacteria monitoring were not included, Orange County is spending significantly more to address impairments and recreational receiving waters.

53. Comment (District, March 10, 2004):

The Permittees also estimated analysis and labor costs of the draft monitoring program based on the actual labor costs, contract laboratory costs, and time needed to conduct current sampling efforts. The per capita costs, including laboratory analysis, staff time and overhead, and physical costs, is estimated to be \$2.54. These costs do not include the required special study.

Response:

The Permittees have not provided any documentation to support their estimates, and it is not possible to accurately analyze their table for the following reasons:

- a. It is unclear what the Core Monitoring costs or the Dry Weather costs represent.
- b. The Permittee-estimated base cost of Core Monitoring is \$24,557 higher than their estimated total of \$138,586. This difference is not accounted for.
- c. Labor costs have not been broken down to show the number of hours they are assuming or cost per hour, so it is not possible to analyze the submitted figures.
- d. The estimated costs in Table 8 in the Fact Sheet already account for laboratory analysis and labor, which makes the Permittees table seem inflated due to duplicative cost accounting, however there is not enough information to determine this.
- e. It appears that the Permittees assume that every sampling event will require overtime. It is not logical that dry weather sampling, report preparation, vehicles, etc. would require overtime. The overtime estimate seems to be unnecessarily inflated.
- f. It is not clear how much a consultant would be paid and for what, considering that labor and analysis is already accounted for.

Cost Assessment of Permittees' Proposed Revised MRP

The Permittees submitted a cost summary of their proposed revised MRP. The total labor and analysis costs for the Receiving Water and Dry Weather Monitoring Programs was calculated to be \$255,873 (including overtime for labor). The cost summary does not include a breakdown of costs for individual monitoring components, so it is difficult to determine an estimate of the revised tentative monitoring requirements. As shown in the table above, the revised tentative receiving water monitoring requirements have been reduced to less than the Permittees' proposal, so the cost should be less than, or essentially equivalent to, their estimate. The Dry Weather Monitoring Program, which has been renamed the Illicit Discharge Monitoring Program, is not significantly different than the Permittees' proposal (i.e., the number of stations should be the same, and the majority of monitoring will consist of field testing with existing probes), so one could assume that the cost would be similar to the estimated cost of the Permittees' proposal.

Overall, the SDRWQCB considered the Permittees' comments regarding monitoring costs and reduced the monitoring requirements to essentially the equivalent of their proposal.